

ANTENNA PROJECT

Communications Technologies, Inc.

TX station: *WYCS*

Site name: *AUXILIARY*

Frequency: *91.50 MHz*

Date: *9/6/2007*

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Site name: AUXILIARY

General data of antenna system

TX station	WYCS
Site name	AUXILIARY
Site longitude (+ddd°pp'ss")	37-04-42
Site latitude (+dd°pp'ss")	76-26-47
Ground level a.s.l. (m)	9
Antenna system height a.g.l. (m)	78.0
Transmitter power (Watt)	625.2
Carrier wave frequency (MHz)	91.50
Antenna system central frequency (MHz)	91.50
Filename of antenna base diagrams type 1	ALDENA_ASD0102210.ANT
Filename of antenna base diagrams type 2	
Antenna system polarization (H, V, C, X)	V
Transmitting cable attenuation (dB)	0.0
Additional attenuations (dB)	0.0
Base diagrams sectors (A = all, F = front)	A
Velocity factor of cables to antennas (0÷1)	1.00
Coordinate system (C = cartesian, P = polar)	P
Mast side/diameter (cm):	10.0
Mast cross section (Triangular, Square, Circular)	C
Mast rotation w.r.t. North (°)	0
System picture filename (*.bmp *.gif *.jpg)	

Information about antennas used in the system*Antenna of type 1*

Manufacturer	ALDENA
Antenna model	ASD.01.02.215
Band start (MHz)	87.5
Band stop (MHz)	108
Diagrams frequency (MHz)	92
Polariz. (H, V, C, X)	V
Vertical dist. (cm)	270
Height (cm)	134
Width (cm)	20
Thickness (cm)	96
Weight (Kg)	7
Maximum power (KW)	5
Gain (dBd)	2.04
North E.C. (cm)	0
East E.C. (cm)	0
Return loss (dB)	-27.64
R.C. phase (°)	-123.46

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Geometr. and electrical data of antenna system

	<i>Power</i> (%)	<i>Tilt</i> (°)	<i>Az.</i> (°/N)	<i>Phase</i> (°)	<i>V dist.</i> (m)	<i>Scr-D</i> (cm)	<i>Scr-Az</i> (°/N)	<i>Rot.</i> (1÷4)	<i>Type</i> (1÷2)	<i>L cables</i> (cm)	<i>Car. phase</i> (°)	
1	25.000	0	0	0	+0.0	4.92	0.0	0.0	1	1	0.0	0.0
2	25.000	0	0	0	+0.0	1.64	0.0	0.0	1	1	0.0	0.0
3	25.000	0	0	0	+0.0	-1.64	0.0	0.0	1	1	0.0	0.0
4	25.000	0	0	0	+0.0	-4.92	0.0	0.0	1	1	0.0	0.0

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E.m. field previsions in free space

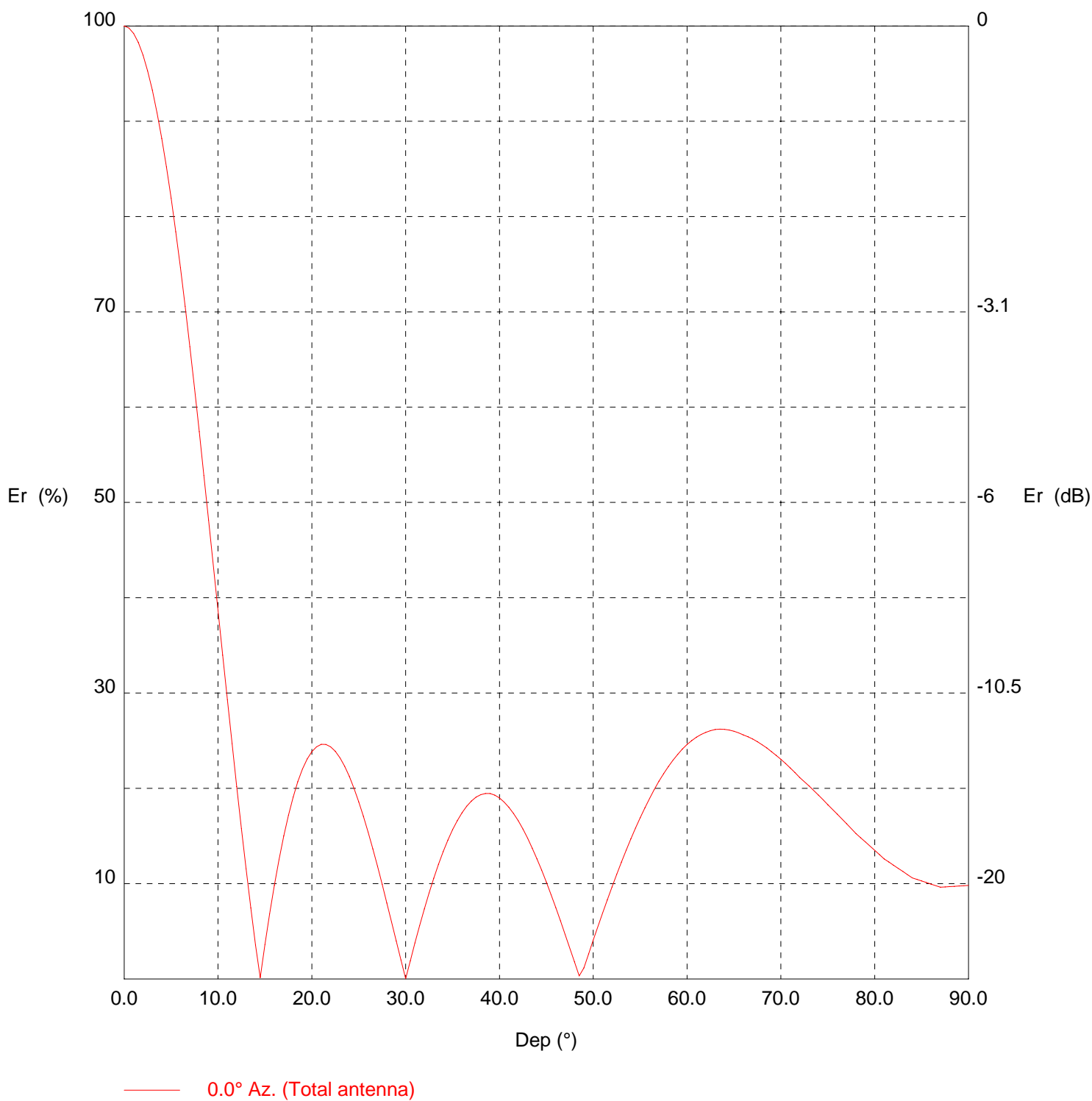
<i>Locality</i>	<i>Alt.</i> (m)	<i>Dist.</i> (Km)	<i>Dep.</i> (°)	<i>Az.</i> (°/N)	<i>ERP</i> (KW)	<i>Field</i> (mV/m)	<i>Field</i> (dBμV/m)
1 POINT A	9	0.3	17.3	0	0.108	278.8	108.9
2 POINT B	9	0.5	8.9	0	0.976	433.1	112.7
3 POINT C	9	0.8	5.9	0	2.257	442.0	112.9
4 POINT D	9	1.0	4.5	0	2.920	378.0	111.5
5 POINT E	9	1.3	3.6	0	3.277	320.7	110.1
6 POINT F	9	1.5	3.0	0	3.486	275.8	108.8
7 POINT G	9	1.8	2.6	0	3.615	240.8	107.6
8 POINT H	9	2.0	2.2	0	3.702	213.3	106.6
9 POINT I	9	2.3	2.0	0	3.762	191.1	105.6
10 POINT J	9	2.5	1.8	0	3.805	173.0	104.8
11 POINT K	9	2.8	1.6	0	3.838	158.0	104.0
12 POINT L	9	3.0	1.5	0	3.863	145.3	103.2
13 POINT M	9	3.3	1.4	0	3.882	134.5	102.6
14 POINT N	9	3.5	1.3	0	3.898	125.1	101.9

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Vertical diagram



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Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)
0.0	100.0	4.00	30.0	0.0	0.00	60.0	24.6	0.24
0.5	99.8	3.98	30.5	1.9	0.00	60.5	25.0	0.25
1.0	99.2	3.94	31.0	3.8	0.01	61.0	25.4	0.26
1.5	98.3	3.86	31.5	5.6	0.01	61.5	25.7	0.26
2.0	97.0	3.76	32.0	7.3	0.02	62.0	25.9	0.27
2.5	95.3	3.63	32.5	9.0	0.03	62.5	26.1	0.27
3.0	93.3	3.48	33.0	10.6	0.04	63.0	26.2	0.27
3.5	90.9	3.30	33.5	12.0	0.06	63.5	26.2	0.27
4.0	88.2	3.11	34.0	13.4	0.07	64.0	26.2	0.27
4.5	85.2	2.90	34.5	14.6	0.08	64.5	26.1	0.27
5.0	81.9	2.69	35.0	15.7	0.10	65.0	26.0	0.27
5.5	78.4	2.46	35.5	16.6	0.11	65.5	25.8	0.27
6.0	74.6	2.23	36.0	17.4	0.12	66.0	25.6	0.26
6.5	70.6	1.99	36.5	18.1	0.13	66.5	25.4	0.26
7.0	66.3	1.76	37.0	18.7	0.14	67.0	25.2	0.25
7.5	61.9	1.54	37.5	19.1	0.15	67.5	24.9	0.25
8.0	57.4	1.32	38.0	19.3	0.15	68.0	24.6	0.24
8.5	52.8	1.12	38.5	19.5	0.15	68.5	24.2	0.23
9.0	48.2	0.93	39.0	19.5	0.15	69.0	23.9	0.23
9.5	43.4	0.75	39.5	19.3	0.15	69.5	23.5	0.22
10.0	38.7	0.60	40.0	19.0	0.14	70.0	23.0	0.21
10.5	34.0	0.46	40.5	18.6	0.14	70.5	22.6	0.20
11.0	29.3	0.34	41.0	18.0	0.13	71.0	22.1	0.20
11.5	24.7	0.24	41.5	17.4	0.12	71.5	21.6	0.19
12.0	20.2	0.16	42.0	16.6	0.11	72.0	21.1	0.18
12.5	15.8	0.10	42.5	15.7	0.10	72.5	20.7	0.17
13.0	11.5	0.05	43.0	14.8	0.09	73.0	20.2	0.16
13.5	7.4	0.02	43.5	13.7	0.08	73.5	19.8	0.16
14.0	3.6	0.01	44.0	12.6	0.06	74.0	19.3	0.15
14.5	0.1	0.00	44.5	11.4	0.05	74.5	18.8	0.14
15.0	3.6	0.01	45.0	10.2	0.04	75.0	18.3	0.13
15.5	6.8	0.02	45.5	8.8	0.03	75.5	17.8	0.13
16.0	9.8	0.04	46.0	7.5	0.02	76.0	17.3	0.12
16.5	12.5	0.06	46.5	6.1	0.01	76.5	16.8	0.11
17.0	15.0	0.09	47.0	4.7	0.01	77.0	16.3	0.11
17.5	17.2	0.12	47.5	3.2	0.00	77.5	15.8	0.10
18.0	19.1	0.15	48.0	1.8	0.00	78.0	15.2	0.09
18.5	20.7	0.17	48.5	0.3	0.00	78.5	14.8	0.09
19.0	22.0	0.19	49.0	1.2	0.00	79.0	14.4	0.08
19.5	23.1	0.21	49.5	2.6	0.00	79.5	13.9	0.08
20.0	23.8	0.23	50.0	4.1	0.01	80.0	13.5	0.07
20.5	24.4	0.24	50.5	5.5	0.01	80.5	13.0	0.07
21.0	24.6	0.24	51.0	6.9	0.02	81.0	12.6	0.06
21.5	24.6	0.24	51.5	8.3	0.03	81.5	12.3	0.06
22.0	24.4	0.24	52.0	9.6	0.04	82.0	11.9	0.06
22.5	23.9	0.23	52.5	11.0	0.05	82.5	11.6	0.05
23.0	23.2	0.22	53.0	12.3	0.06	83.0	11.3	0.05
23.5	22.3	0.20	53.5	13.5	0.07	83.5	10.9	0.05
24.0	21.2	0.18	54.0	14.7	0.09	84.0	10.6	0.04
24.5	20.0	0.16	54.5	15.8	0.10	84.5	10.4	0.04
25.0	18.6	0.14	55.0	16.9	0.11	85.0	10.3	0.04
25.5	17.1	0.12	55.5	18.0	0.13	85.5	10.1	0.04
26.0	15.4	0.09	56.0	19.0	0.14	86.0	9.9	0.04
26.5	13.7	0.07	56.5	19.9	0.16	86.5	9.8	0.04
27.0	11.8	0.06	57.0	20.8	0.17	87.0	9.6	0.04
27.5	9.9	0.04	57.5	21.5	0.19	87.5	9.7	0.04
28.0	8.0	0.03	58.0	22.3	0.20	88.0	9.7	0.04
28.5	6.0	0.01	58.5	23.0	0.21	88.5	9.7	0.04
29.0	4.0	0.01	59.0	23.6	0.22	89.0	9.7	0.04
29.5	2.0	0.00	59.5	24.1	0.23	89.5	9.8	0.04